Modified Claims according to Article 34

1. A method for illuminating viruses in a circulatory blood, characterized in that the method includes the steps of:

1) Adding an anticoagulant into a whole blood source and establishing a circulation system of the whole blood source;

2) Withdrawing the whole blood with the anticoagulant into a plasma-separating device for implementing a separation, and directly pumping the red-blood cells back into the whole blood source and transporting the plasma into a mixing transport pump after the separation;

3) Meanwhile, adding a photosensitizer methylene blue into the mixing transport pump so that the methylene blue and the plasma are mixed and are pumped together into a plasma container;

4) Using an illumination device to illuminate the mixed plasma in the plasma container for virus illumination, then pumping the plasma into a removing device for removing off the photosensitizer;

5) When the methylene blue being absorbed by the removing device, transfusing the virus- illuminated plasma back into the whole blood system;

6) Repeating the step 2 to the step 5 until the load of the viruses in the whole blood source is reduced by 99.99%.

wherein,

the said whole blood source is a reserve blood from a blood station, a blood bank, blood bags or a blood storage device, or is a circulation blood from a tube used for transfusing blood;

the said mixing transport pump is a peristaltic pump, which transfers the plasma at a speed of 30 to 150 ml per minute, and the photosensitizer is transferred at 1% of the speed transferring the plasma.;

a light source in the said illumination device is a set of LEDs. The time for the plasma flowed into the plasma container to be illuminated by the light source of the illumination device is 60 seconds; the plasma container is a sealed container having two tubes at each side, placed in the illumination device; and

an adsorbent used in the said removing device is an attapulgite.

2. A device for illuminating viruses in a circulatory blood including a

plasma-separating device for separating a whole blood source and an illumination device, characterized in that the device further includes a pumping device for mixing a plasma and a photosensitizer and transferring the mixture into the illumination device, and a removing device which receives the outgoing flow from the illumination device for removing off the photosensitizer, the egress of the removing device is connected with the whole blood source.

3. The device according to claim 2, characterized in that the illumination device includes a plasma container, a supporting plate for supporting the plasma container, two illuminating plates used as the light source of the illumination device and respectively placed on the upside and on the downside of the supporting plate, two heat-sink plates respectively placed on the outside of each illuminating plate, and a fan set.

4. The device according to claim 3, characterized in that a stepping motor is provided at one end of the supporting plate for controlling the tremble of the supporting plate.

5. The device according to any one of claim 2 to 4, characterized in that the plasma container is a plasma bag having a soft tube at each end, while the plasma bag is a bag having five pressed folded line in the middle.

6. The device according to any one of claim 2 to 4, characterized in that the pump is a peristaltic pump, and the removing device is an absorbing filter using an attapulgite as an absorbent.

7. The device according to any of claim 2 to 4, characterized in that the pump, the tube, the plasma-separating device, the plasma container and the removing device are all aseptic and disposable sealed systems isolated from the outside environment.

8. A usage of the method according to claim 1, which is illuminating viruses in the circulatory blood of organism.

9. A usage of the method according to claim 1, which is treating

virus-disease; the detailed steps comprising establishing an extracorporeal circulation for a patient, illuminating viruses in the separated plasma, then mixing the illuminated plasma with the previously separated red-blood cells as well as other components, etc., transfusing the mixed blood back into the body of the patient, and repeating the above procedure.